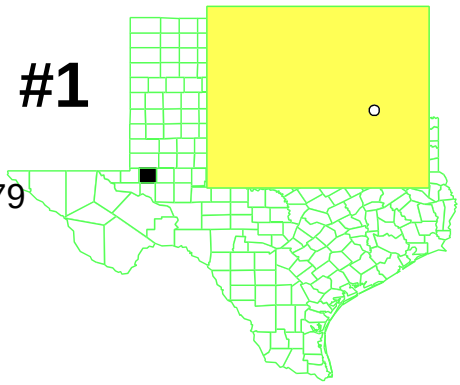
ODESSA CHROMIUM #1

TEXAS

EPA ID# TXD980867279
Site ID: 0602943



EPA REGION 6
CONGRESSIONAL DISTRICT 19
Ector County
Odessa

Updated: April 25, 2005

Site Description

Location:
- The site is located in the vicinity of 44th St. and Brazos Ave., Odessa, Ector County, Texas.

Population:
- Approximately 3500 persons live outside the city limits within one mile of the site.

Setting:
- The nearest residence is within the site boundaries.
- The nearest drinking water well is also on-site.
- Approximately 200 water wells are within 1/2-mile of the site.
- A municipal water well is within 1,250 feet of the site.
- The sources of site contamination are within a 10-acre industrial area.

Hydrology:
- The estimated surface projection of the ground water plume is more than 20 acres.
- The Trinity-Edwards aquifer is sandstone and conglomerate rock, overlaid by 20 ft-60 ft. of soil and caliche (hard-pan).
- The aquifer itself is 60'-100' thick and underlaid by redbed clays.
- The depth to ground water at the site is 75 feet.

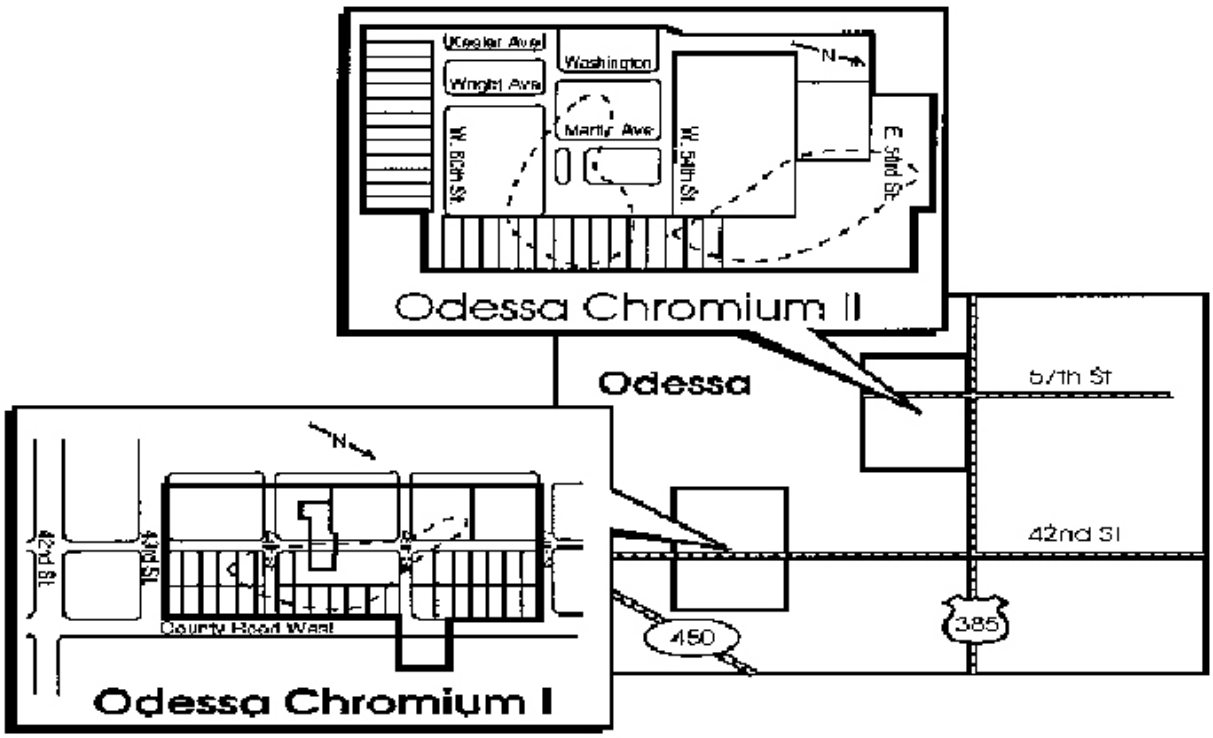
Wastes and Volumes

- The principal pollutant found during the Remedial Investigation is hexavalent chromium ranging to 72 parts per million (ppm) in ground water.
- The volume of ground water treated is 191 million gallon as of 8/31/01.

Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 42.24
Proposed Date: 10/15/84
Final Date: 5/20/86
NPL Update: No. 2

Site Map and Diagram



The Remediation Process

Site History:

- Contamination resulted from chrome plating operations from the late 1960s - 1970s.
- Site remediation has been addressed in two phases by the Texas Commission on Environmental Quality (TCEQ) (formerly Texas Natural Resource Conservation Commission)(TNRCC) and previously known as Texas Water Commission (TWC)).
- The first phase, or operable unit, dealt with development of an alternate water supply (AWS) for area residents and businesses.
- The second phase addressed the source and remediation of the chromium in the ground water.
- The Remedial Investigations and Feasibility Studies (RI/FS) for the two phases were completed in September 1986 (AWS) and March 1988 (Source/Ground Water).

Health Considerations:

- More than a 20-acre portion of the area's sole source aquifer (Trinity) was contaminated.
- Ground water contamination has been documented in 16 of 200 existing wells sampled.
- 5 of 14 monitoring wells contained detectable levels of chromium.
- The affected wells are outside of the city water supply service area.

Record of Decision

Signed: September 8, 1986 (Alternate Water Supply)
Signed: March 18, 1988 (Source Control/Ground Water

Alternate Water Supply Phase (AWS):

- For this phase, the Record of Decision (ROD) calls for an extension of the existing municipal water supply system to those persons residing within the impacted area.

Source Control/Ground Water:

- This ROD selected extraction and electrochemical treatment of contaminated ground water from the Trinity Aquifer.

Other Remedies Considered	Reason Not Chosen
----------Alternate Water Supply----------	
1. "No Action"	**Did not meet remedial objectives; not protective of human health and the environment**
2. Development of surface water supply	**High monthly water bills for users, Water Association must be formed**
3. Removal via treatment	**Stringent operational review required to ensure contaminants are properly removed**
4. Development of new well field	**Long term supply of water questionable**
----------Source Control/Ground Water----------	
1. "No Action"	**Did not meet remedial objectives; not protective of human health or the environment**
2. Containment Wall	**Difficult to implement; high cost to users**
3. Ion Exchange	**System will generate a hazardous sludge**
4. Chemical Treatment	**Treatment may increase Total Dissolved Solids(TDS) of the ground water**

Community Involvement

- Community Involvement Plan: Developed 6/85, revised 9/89, and again in 12/92.
- Open houses and workshops: 4/86, 12/87, 9/89, 1/91
- Proposed Plan Fact Sheet and Public Meeting: 7/86 (AWS), 1/88 (Source/Ground Water)
- ROD Fact Sheet: 9/86 (AWS), 3/88 (Source/Ground Water)
- Milestone Fact Sheets: 1/85, 8/85, 12/87, 3/90, 9/90 (TWC), 12/90 (TWC), 1/91 (TWC), 2/94 (TWC)
- Citizens on mailing list: 33
- Constituency Interest: Low to moderate concerns regarding site after alternate water supply was brought on-line.
- Site Repositories: (1) Ector County Library, 321 West Fifth Street, Odessa, TX 79761; Permian Basin Regional Planning Commission, 2910 Laforce Blvd., Odessa, Tx.

(2) EPA's Region 6, files in Dallas, Texas; Please call first,
Contact 1(800) 887-6063 for file viewing information and hours open
or written request through Freedom of Information Act (FOIA),
FOIA Officer, Jerva Duram:
1445 Ross Avenue, Dallas, Tx. 75202
(3) Texas Commission on Environmental Quality (TCEQ), files in Austin, Texas:
Contact: Telephone (512) 239-2920 for file viewing information and hours open;
Address: TCEQ -Records
(Mail Code 199) , Building D,
P.O. Box 13087
Austin, Texas 78711

Technical Assistance Grant

- Availability Notice: 4/11/89
- Letters of Intent Received: Gerald Fugit, Chrom Sites, Inc. - 12/20/90
- Draft Application Received: 4/10/91
- Grant Award: None - application denied
- Current Status: No TAG in process.

Contacts

- **Remedial Project Manager (EPA):** Ernest Franke, PE, RPLS, 214-665-8521, Mail Code: 6SF-AP
- **State Project Manager (TCEQ):** Alvie Nichols, 512/239-2439; E-Mail: avichols@tceq.state.tx.us
- **Community Involvement (EPA):** Ernest Franke PE, 214-665-8521, Mail Code: 6SF-AP
- **Attorney (EPA):** Anne Foster, 214-665-2169, Mail Code: 6RC-S
- **Regional Public Liaison (EPA):** Arnold Ondarza , 303-312-6777
- **State Coordinator (EPA):** Karen Bond , 214-665-6682, Mail Code: 6SF- AP
- **Prime Contractor: For TCEQ;** SHAW -Jack M. Renolds, P.G. Project Manager, 432-520-6045 Texas
- **Engineer:** SHAW-E&I - Jimmy Gibson, PE

Present Status and Issues

- The provision of an alternate water supply eliminated the potential for exposure to contaminants at the Odessa Chromium #1 site while final groundwater cleanup activities proceed.
- A ground water pump and treat system is operating in conjunction with ferrous sulfate treatment to remove chromium contamination from the aquifer.
- A Explanation of Significant Differences(ESD) for the Record of Decision has been signed/approved by EPA on 10/25/99 to add in-situ treatment to the ROD to enhance site remediation.
- Ferrous Sulfate in-situ treatment was conducted at the site and has achieved remediation goals in four (bold and underlined) of the eight (**RW-1, 2, 3,** 4, **5,** 6, 102, & 106) Trinity Aquifer recovery wells.
- The State of Texas, TCEQ and its Contractor Shaw are evaluating options to achieve Site remedial goals.
- The State of Texas, TCEQ, and its Contractor Shaw conducted sampling and analysis on site wells in March 2003 for both tri and hex-valence chromium. Upon receipt of analytical results further enhancement action will be evaluated.
- The State of Texas, TCEQ, under its contractor in-situ treating with Metals Remediation Compounds (MRC) application December 10th to 25th ,2003.
- Long Term Pump And Treat (LTRA) ended December 25, 2003.
- The State of Texas, TCEQ, has taken over site O&M Activities on December 26, 2003.
- May 2004 Re-Treatment of well RW-6 with MRC

- June 4 to June 14, 2004 decommissioning of the Odessa Chromium #1 treatment plant.
- The State of Texas, TCEQ, and its Contractor Shaw and its contractor are scheduled to in-situ treat with Metals Remediation Compounds (MRC) the five site wells above the MCL in May 2005.

.Benefits

- A safe alternate drinking water supply has been provided for approximately 3,500 people living in the site area.
- The remedy has treated over 246 million gallons of contaminated ground water from the Trinity aquifer of the Odessa area.